

Appl. No. 10/757,202
Reply to Office Action of September 1, 2005

Attorney Docket No. 2002-0350 /24061.484
Customer No. 42717

REMARKS

Claims 1, 9, 15 and 19 have been amended, and Claims 4-5, 7, 11-12 and 14 have been canceled. Claims 1-3, 6, 8-10, 13 and 15-19 are currently pending in the application. In view of the foregoing amendments and the remarks that follow, Applicants respectfully request reconsideration.

Amendment to the Specification

On April 15, 2004, Applicants filed an Information Disclosure Statement that correctly cites Holland U.S. Patent No. 6,261,158. The same Holland patent is mentioned on page 2 of the specification, but it was recently noted that page 2 includes a typographical error in the patent number. The foregoing amendments correct this typographical error, in particular by changing the patent number from 6,261,258 to 6,261,158.

Independent Claim 1

The Office Action rejected independent Claim 1 under 35 U.S.C. §102 as anticipated by Lee U.S. Application Publication No. 2003/0166381. Dependent Claims 5 and 7 were also rejected under §102 as anticipated by Lee. The foregoing amendments add some limitations to Claim 1, including limitations that previously appeared in dependent Claims 5 and 7. It is respectfully submitted that Claim 1 is patentably distinct from Lee, for the following reasons.

THE §102 REJECTION IMPROPERLY RELIES ON MULTIPLE EMBODIMENTS

As discussed in MPEP §2131, anticipation under §102 requires the presence in a single prior art reference of each and every element of the claimed invention, and the elements in the reference must be arranged as required by the claim. In other words, a reference underlying a §102 rejection must not only disclose each and every element in the claim, but must also disclose

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all of those elements in a single embodiment that contains the entire combination recited in the claim, including all recited interrelationships between elements.

In the present Office Action, the §102 rejection based on Lee is explained at lines 14-20 on page 2. This explanation starts out by discussing paragraphs [0088-0089], which are part of the discussion of an embodiment that Lee identifies as "Experimental Example 7". Then, the explanation suddenly jumps to paragraph [0063], which is part of Lee's discussion of an entirely different embodiment that Lee identifies as "Experimental Example 1". After that, the explanation suddenly jumps to paragraph [0077], which is part of Lee's discussion of still another different embodiment that Lee identifies as "Experimental Example 5". Thus, the Examiner is attempting to make a §102 rejection by combining multiple separate embodiments. However, any attempt to combine two or more embodiments, even if they are in the same reference, raises issues of obviousness under 35 U.S.C. §103, and the present §102 rejection does not carry the burden of establishing a prima facie case of obviousness under §103. Under §102, any given rejection must be based on a single embodiment in the cited reference, and that single embodiment must include the entire combination recited in the claim, including all of the recited interrelationships between elements. Thus, since the present §102 rejection attempts to combine multiple different embodiments from Lee, it is respectfully submitted that the §102 rejection is inherently defective, and must be withdrawn.

LEE DOES NOT ANTICIPATE CLAIM 1

The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Claim 1 recites:

wherein said initial slurry comprises a diluted ceria-based
slurry with the compositions that ranges from 0.5 wt. % to 1.0 wt.
% ceria; and

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wherein said second slurry comprises a ceria-based slurry
with composition ranging from 1.0 wt. % to 2.0 wt. % ceria, said
initial slurry and said second slurry having different concentrations
of ceria.

As noted above, the Office Action improperly attempts to combine teachings drawn from multiple embodiments in Lee. In this regard, the Office Action initially relies on Lee's paragraphs [0088-0089], which are part of Lee's Experimental Example 7. The discussion of this example includes paragraph [0086], where Lee explains that the two slurries used in Experimental Example 7 each contain exactly the same amount of ceria abrasive (i.e. 1 wt. %). The Office Action then improperly attempts to combine this with some additional teachings drawn from an entirely different embodiment of Lee (paragraph [0063], Experimental Example 1). But as to the point in question, paragraph [0063] is similar to paragraph [0086], in that paragraph [0063] explains two slurries each contain exactly the same amount of ceria abrasive (i.e. 1 wt. %). According to paragraph [0063], the distinction between these two slurries is not any difference in the abrasive, but instead is that the two slurries have different amounts of APC (ammonium polycarboxylate, which serves as an anionic polymer passivation agent). To the extent the Office Action also improperly refers to still another completely different embodiment of Lee (paragraph [0077], Experimental Example 5), the Office Action relies on that third embodiment for teachings that relate to a feature other than slurry composition. Thus, even ignoring the fact that the Office Action improperly combines teachings drawn from multiple different embodiments, none of the teachings drawn from these embodiments contains certain distinctive subject matter recited in Applicants' independent Claim 1, such as the limitation specifying "said initial slurry and said second slurry having different concentrations of ceria". Consequently, Lee does not disclose each and every element recited in Claim 1.

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Accordingly, for each of the foregoing reasons, it is respectfully submitted that Lee does not anticipate independent Claim 1 under §102. Claim 1 is therefore believed to be allowable over Lee, and notice to that effect is respectfully requested.

Independent Claim 9

The Office Action rejected independent Claim 9 under 35 U.S.C. §102 as anticipated by Lee. Dependent Claims 11 and 14 were also rejected under §102 as anticipated by Lee. The foregoing amendments add some limitations to Claim 9, including limitations that previously appeared in dependent Claims 11 and 14. It is respectfully submitted that Claim 9 is patentably distinct from Lee, for the following reasons.

THE §102 REJECTION IMPROPERLY RELIES ON MULTIPLE EMBODIMENTS

The rationale given in the Office Action for the rejection of Claim 9 is the same rationale given for the rejection of Claim 1. As discussed above in association with Claim 1, the Office Action attempts to make a §102 rejection by combining multiple separate embodiments from Lee. Accordingly for the same basic reasons given in association with Claim 1, it is respectfully submitted that the §102 rejection of Claim 9 is inherently defective, and must be withdrawn.

LEE DOES NOT ANTICIPATE CLAIM 9

As noted earlier, the MPEP §2131 specifies that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Claim 9 recites:

wherein said first slurry comprises a diluted ceria-based
slurry with compositions ranging from 0.5 wt. % to 1.0 wt. % ceria

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wherein said second slurry comprises a ceria-based slurry
with composition ranging from 1.0 wt. % to 2.0 wt. % ceria, said
first and second slurries having different concentrations of ceria.

Even ignoring the fact that the Office Action improperly combines teachings drawn from multiple different embodiments, none of these teachings include certain distinctive subject matter recited in Applicants' independent Claim 9, such as the limitation specifying "said first and second slurries having different concentrations of ceria". Consequently, for reasons similar to those discussed above in association with Claim 1, it is respectfully submitted that Lee does not disclose each and every element recited in Claim 9.

Accordingly, for each of the foregoing reasons, it is respectfully submitted that Lee does not anticipate independent Claim 9 under §102. Claim 9 is therefore believed to be allowable over Lee, and notice to that effect is respectfully requested.

Independent Claim 15

Independent Claim 15 stands rejected under 35 USC §103 on the ground that it would be obvious in view of Lee. This ground of rejection is respectfully traversed. In this regard, the PTO specifies in MPEP §2142 that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Applicants respectfully submit that Lee fails to establish a *prima facie* case of obviousness under §103 with respect to Claim 15, for the mutually exclusive reasons that are discussed below.

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THE PRIOR ART MUST TEACH ALL CLAIM LIMITATIONS UNDER §103

The provisions of MPEP §2142 specify with respect to §103 that:

To establish a *prima facie* case of obviousness . . . the prior art reference (or references when combined) must teach or suggest all the claim limitations. (Emphasis added).

The PTO considers this requirement to be important, as evidenced by the fact that this exact language appears not only in MPEP §2142, but also in other sections of the MPEP, including MPEP §706.02(j) and MPEP §2143. Applicants' Claim 15 includes a recitation of:

polishing said substrate with a diluted chemical mechanical polishing slurry composition and controlling polishing time so that said stop layer is not exposed; and

thereafter continuing to final planarization to said stop layer with a more concentrated composition of said chemical mechanical polishing slurry.

In the Office Action, the explanation of the §103 rejection of Claim 15 appears in lines 1-6 on page 3. This explanation relies on paragraph [0088] of Lee, which discusses Lee's Experimental Example 7. Paragraph [0086] is also part of the discussion of this particular embodiment. Lee explains in paragraph [0086] that the two slurries used in Experimental Example 7 each contain exactly the same amount of ceria abrasive (i.e. 1 wt. %). Lee's Experimental Example 7 is thus different from the subject matter of Claim 15, because Lee fails to disclose certain limitations from Claim 15 that are quoted above, including carrying out two different planarizations that use the same slurry, but in different concentrations. In other words, Lee fails to satisfy the

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requirement of MPEP §2142 that the reference(s) underlying a §103 rejection must "teach or suggest all the claim limitations" (emphasis added). Lee therefore fails to establish a *prima facie* case of obviousness under §103 in the manner required by MPEP §2142. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 15 is not obvious under §103 in view of Lee, and notice to that effect is respectfully requested.

THERE IS NO SUGGESTION OR MOTIVATION TO MODIFY LEE

The provisions of MPEP §2142 specify with respect to §103 that:

To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, . . . to modify the reference or to combine reference teachings. . . . The teaching or suggestion to make the claimed combination [or modification] . . . must . . . be found in the prior art, and not based on applicant's disclosure.

Here, as discussed above, the §103 rejection is based solely on Lee, and Lee fails to disclose certain limitations appearing in Applicants' Claim 15, such as carrying out two different planarizations that use the same slurry, but in different concentrations. In explaining the §103 rejection at lines 1-6 on page 3, the Office Action ignores this shortcoming in the teachings of Lee. In particular, the Office Action does not even recognize that Lee would need to be modified in order to meet this limitation in Claim 15, much less offer any explanation as to why a person skilled in the art might possibly be motivated to modify Lee in this particular manner. The present §103 rejection of Claim 15 is therefore incomplete, because it fails to identify a necessary modification to Lee, much less demonstrate the motivation to modify that is required by the MPEP. Thus, as best understood, the §103 rejection is apparently based on hindsight of the present invention, rather than on motivation properly derived from what was known prior to the present invention. Lee therefore fails to establish a *prima facie* case of obviousness under §103

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in the manner required by MPEP §2142. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 15 is not obvious under §103 in view of Lee, and notice to that effect is respectfully requested.

In view of the various different reasons discussed above, it is respectfully submitted that the Office Action fails to properly establish a prima facie case of obviousness with respect to Applicants' Claim 15. Claim 15 is therefore believed to be allowable over Lee, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2-3, 6 and 8, Claims 10 and 13, and Claims 16-19 respectively depend from Claim 1, Claim 9 and Claim 15, and are also believed to be patentably distinct from the art of record, for example for the same reasons discussed above with respect to Claims 1, 9 and 15, respectively.

Conclusion

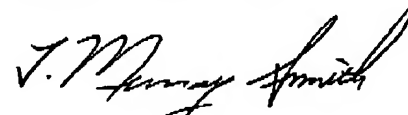
Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

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Although Applicants believe that no fee is due in association with the filing of this Response, the Commissioner is hereby authorized to charge any additional fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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Enclosures: None

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